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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PATEL, GAUTAM

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,345

Applicant(s)

MA ET AL.

Examiner

Gautam R. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,10,11,15 and 19-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,9,12-14,16-18 and 37-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-5, 8-9, 12-14, 16-18 and 37-42 remain for examination. Claims 40-42 are newly added for examination.

RCE STATUS

2. The request filed on 10-01-04 for Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application is acceptable and a RCE has been established. An action on the RCE follows.

Drawings/Objection

3. The drawings are objected for following reasons:

Reference sign is not included in the drawings (see 37 CFR § 1.84p).

Correction of drawing 3 need to have a sign [such as unit 100], which is outputting "seek direction detecting signal".

The structural elements are merely labeled with identifying numbers, see amended Figs. 3. Since these elements are not illustrated as well known graphical representations, Applicant is required to provide suitable meaningful legends under 37 CFR § 1.83 (a) and 1.84 (o).

Applicants are required to submit a proposed drawing correction, removing **ALL new matter** in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must consist of following:

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment, and may be **accompanied by a marked-up copy of one or more of the figures being amended, with annotations**. Any replacement drawing sheet **must be identified in the top margin as □Replacement Sheet□** and include all of the figures appearing on the immediate prior version of the sheet, even though only

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one figure may be amended. ***Any marked-up (annotated) copy showing changes must be labeled, Annotated Marked-up Drawings and accompany the replacement sheet in the amendment (e.g., as an appendix).***

Corrections are required.

Claim Rejections - 35 U.S.C. § 112

4. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5, 8-9, 12-14, 16-18 and 42 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Page 10, paragraph 28 simply states that “second signal processing portion 40 outputs **track cross signal** (TCS)”. And more importantly “The seek direction detecting signal for an optical disk 1 is generated using the phase difference between the TCS output from the second signal processing portion 40 and TES.”.

The specification does not disclose at all that the “**second signal processing portion** generates the **seek direction detecting signal** at all. Second signal processing portion only generates TCS, NOT seek direction detecting signal.

5. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 8-9, 12-14, 16-18 and 42 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 18-19 "the second signal processing portion to generate the seek direction detecting signal from the second electrical signals and the track error signal." is confusing and unclear. First this definition is inconsistent with paragraph 28 and also inconsistent with claim 5. Because as explained before second portion ONLY produces TCS NOT seek direction detecting signal as claimed.

Claim Rejections - 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 37-41 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA (applicants Admitted Prior Art) in view of Musha et al., US. patent 4,425,636 (hereafter Musha)

As to claim 37, AAPA discloses the invention as claimed [see Figs. 1-2], including a light dividing unit, a first optical detector, a second optical detector and a signal processing portion comprising steps of:

splitting a light beam into a main beam and sub-beam disposed to be focused on an optical disk with the main beam in a line incident on a common track of an optical disk, where the sub-beam further comprises an optical aberration not disposed in the line and incident off of the common track [pages 1-3; and fig. 1-2];

reflecting the main beam and sub-beam off the optical [pages 1-3; and fig. 1-2];
and

generating the seek direction detecting signal based upon the reflected main beam and sub-beam [pages 1-3; and fig. 1-2].

As to claim 37, AAPA discloses all of the above elements including a main and sub-beam. Kitamura does not specifically disclose step of splitting light beam into a main beam and a single sub-beam to the extent claimed.

However use of single sub-beam instead of two sub-beam has been known for along time.

Also Musha clearly discloses:

Splitting light beam into a main beam and a single sub-beam [col. 9, line 45 to col. 10, line 42].

Both Musha, and AAPA are interested in providing track error correcting and focus error correcting signal in system with multiple beam method. Both show multiple light detectors arranged in radial and tangential directions, both has signal processing portions.

One of ordinary skill in the art at the time of invention would have realized that the system of AAPA would have been sensitive to cross talk between adjacent tracks. Therefore, it would have been obvious to provide the system of AAPA with a main beam and a single sub-beam in place of two sub-beams as taught by Musha, because one would be motivated to reduce noise, especially cross talk between adjacent tracks and also cancel out the influence of the variation in the luminous intensity of the light source thus improving the signal quality [col. 10, lines 34-42; Musha].

7. As to claim 38, AAPA discloses:

generating a track cross signal based upon the reflected sub-beam;
generating a track cross signal based upon the reflected main beam; and
generating a seek direction detecting signal based upon the track cross signal and track error signal [pages 1-3; and fig. 1-2].

8. As to claim 39, AAPA discloses:

The track cross signal is generated without the reflected main beam [pages 1-3; and fig. 1-2].

9. As to claim 40, it is an apparatus claim corresponding to the method of claim 37, and is therefore rejected for similar reasons set forth in the rejection of claim 37, *supra*.

10. As to claim 41, it is an apparatus claim corresponding to the method of claim 37 to 39, and is therefore rejected for similar reasons set forth in the rejection of claim 37 to 39, *supra*.

NOTE: Kitamura and Lee were cited as prior art references in paper no. 9, mailed 12-31-03.

11. A search based on the best understanding of the claims has been made to find the most pertinent art, but no statement about invention will be appropriate at this time regarding the allowableness of claims 1-5, 8-9, 12-14, 16-18 and 42 no art rejection will be made in this office action regarding the claims 1-5, 8-9, 12-14, 16-18 and 42, due to the speculation required to interpret the claims because of their indefiniteness under 35 U.S.C. 112, 1st and 2nd paragraphs as noted above, and new matter issues. (see *In re Steele*, 134 USPQ 292).

12. Applicant's arguments with respect to claims 1-5, 8-9, 12-14, 16-18 and 37-42 have been considered but are moot in view of the new grounds of rejection.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

December 18, 2004

A handwritten signature in black ink, appearing to read 'Gautam R. Patel', written in a cursive style.

GAUTAM R. PATEL
PRIMARY EXAMINER